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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/724,521	WARNOCK ET AL.
	Examiner	Art Unit	
	David P. Rashid	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-32* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-32* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *28 November 2003* is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☐ All   b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/5/2004, 10/25/2004, 4/27/2005, 6/16/2006, 6/27/2006.

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination

purposes, unless otherwise noted.

Drawings

1.   The following is a quote from 37 CFR 1.84(q):

> They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake.

2.   FIG. 9 and FIG. 10 are objected to under 37 CFR 1.84(q) for failing to properly use lead

lines or underlining when needed – it is suggested take each reference character and either place

it outside the boxes with lead lines, or insert each reference character inside the box and

underline them.

3.   FIG. 9 and FIG. 10 are objected to under 37 CFR 1.84(q) for failing to properly underline

when needed – it is suggested to under line reference characters 902 and 908.

4.   FIG. 24A through FIG. 24D and FIG. 25B are objected to under 37 CFR 1.84(q) for

failing to properly use lead lines – it is suggested to extend the lead line to make contact with the

object it makes reference to.

5.   The following is a quote from 37 CFR 1.84(p)(3):

> Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension.

6.   FIG. 2 through FIG. 5 are objected to under 37 CFR 1.84(p)(3) for failing to properly

make letters large enough to be comprehendible – it is suggested to increase the size of the text

to at least 1/8 inch in height.

7.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference signs mentioned in the specification:

      (i)   "C1" through "C17" as outlined in section "Alternative Method For Requesting a

                paid action"

      (ii)   "900", "914", "929", "916", "918", "916", among any other 900s not mentioned

8.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

include the following reference characters not mentioned in the specification: ALL the reference

characters listed in FIG. 6.

9.   The drawings are objected to under 37 CFR 1.83(a) because they fail to show "Fig. 17b"

and "Fig. 17c" as described in the specification. Any structural detail that is essential for a

proper understanding of the disclosed invention should be shown in the drawing. MPEP §

608.02(d).

10.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the

drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Specification

11.   The disclosure is objected to because of the following informalities:

(i) Abstract, line 1 contains a grammatical error – suggest changing to "…as a newspaper

or magazine"

(ii) Paragraph [0024], line 2 contains a grammatical error – suggest changing to "…wide

variety of different…"

(iii) Paragraph [0095], line 1 contains a typographical error – suggest changing to

"…system 900's ability…"

(iv) ALL OTHER typographical and grammatical errors in the specification.

Appropriate correction is required.

12.   The use of the trademarks ADOBE, MICROSOFT WORD, MERRIAM-WEBSTER, etc

has been noted in this application. It should be capitalized wherever it appears and be

accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks.

13.   The disclosure is objected to because it contains an embedded hyperlinks and/or other

form of browser-executable codes (e.g. paragraph [0011], line 12). Applicant is required to

delete the embedded hyperlink and/or other form of browser-executable code. See MPEP §

608.01.

Claim Objections

14.   37 CFR 1.75(a) reads as follows:

> The specification must conclude with a claim particularly pointing out and distinctly claiming the subject
> matter which the applicant regards as his invention or discovery.

15.   **Claims 2 – 16,** and **18 – 32** are objected to under 37 CFR 1.75(a) for failing to

particularly point out and distinctly claim the subject matter which the applicant regards as

his/her invention.

(i) Claims 2 through 16 cite "[t]he invention of" wherein independent claim 1 from which

they depend is a method claim – it is suggested to change to "The method of".

(ii) Claims 18 through 32 cite "[t]he invention of" wherein independent claim 17 from

which they depend is an apparatus claim – it is suggested to change to "The system of".

Claim Rejections - 35 USC § 102

16.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this
> or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17.   **Claims 1 – 4, 8, 10 – 20, 24,** and **26 – 32** are rejected under 35 U.S.C. 102(b) as being

anticipated by Taylor et al. (US 5,848,184 A).

Regarding **claim 1**, Taylor discloses a method (FIG. 1) of analyzing an image ("IMAGE"

in FIG. 1) including text ("LIST OF TEXT REGION LOCATIONS" in FIG. 1), the method

comprising:

mapping an image ("geometric page segmentor" in Col. 2, lines 61 – 66; FIG. 1, element

34) to determine regions of text (FIG. 1, element 26; "LIST OF TEXT REGION LOCATIONS"

in FIG. 1; FIG. 4);

analyzing portions of the image in accordance with characteristics of selected regions of

the text to develop a desired ordering ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1,

element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) of at least the selected regions in

accordance with a textual relationship between the selected regions ("expected layout" in Col. 2,

lines 53 – 57).

Regarding **claim 2**, Taylor discloses the method of claim 1 wherein the image includes a

complex textual format ("newspaper page" in Col. 3, lines 2 – 7) having one or more articles of

text (FIG. 4), such as found in a newspaper or magazine page, and the desired ordering is related

to the order in which the selected regions are to be presented in a different format appropriate for

a specific use ("…correct reading order of the text blocks…" in Col. 4, lines 50 – 52).

Regarding **claim 3**, Taylor discloses the method of claims 1 or 2 wherein the desired

ordering of the regions ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36;

"LOGICAL STRUCTURE TREE" in FIG. 1) includes a preferred order of words in said

selected regions (the selected text regions contain words in "preferred order" since they are "readable").

Regarding **claim 4**, Taylor discloses the method of claims 1 or 2 wherein the desired ordering of the regions ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) is appropriate for use by a human reader (FIG. 1, element 26 introduces OCR recognized as "a form which is human readable" in Col. 1, lines 38 – 43).

Regarding **claim 8**, Taylor discloses the method of claims 1 or 2 wherein the desired ordering of the regions ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) is appropriate for use by a word processor (FIG. 1, element 26 introduces OCR that "supports a myriad of uses such as editing/reformatting…" in Col. 1, lines 34 – 38 which is the work of a "word processor").

Regarding **claim 10**, Taylor discloses the method of claims 1 or 2 wherein the analyzing ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) further comprises:

developing a frameset of frame (FIG. 8, elements 1 through 11) and sub-frame areas (FIG. 8, elements 10, 11) of the image ("IMAGE" in FIG. 1) each including related regions of text.

Regarding **claim 11**, Taylor discloses the method of claims 1 or 2 wherein the analyzing ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) further comprises:

identifying groups of regions of text related to textual articles ("lead article" in Col. 3,

line 2 – 7) and sub-articles (all other articles that are not the "lead article").

Regarding **claim 12**, Taylor discloses the method of claims 1 or 2 wherein the analyzing

("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE

TREE" in FIG. 1) further comprises:

ordering regions ("...correct reading order of the text blocks..." in Col. 4, lines 50 – 52)

within a textual article (textual article being FIG. 4; text blocks are FIG. 8, elements 1 through

11).

Regarding **claim 13**, Taylor discloses the method of claims 1 or 2 wherein the analyzing

("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE

TREE" in FIG. 1) further comprises:

identifying groups of regions of text (boxed-in areas of FIG. 4) related to textual articles

(textual article being FIG. 4); and

ordering regions ("...correct reading order of the text blocks..." in Col. 4, lines 50 – 52)

within textual articles.

Regarding **claim 14**, Taylor discloses the method of claims 1 or 2 wherein the analyzing

further comprises:

normalizing ("Normalizing" is described in the examined specification as checking word

"rectangles and expands or contracts them so that they butt against each other vertically and

horizontally". FIG. 3 shows normalization of the textual image with the text region borders

using RSLA (Col. 6, line 64 – Col. 7, line 7).) the textual image ("IMAGE" in FIG. 1).

Regarding **claim 15**, Taylor discloses the method of claims 1 or 2 wherein the analyzing ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) further comprises:

columnizing (Col. 5, lines 34 – 55; FIG. 1, element 18; FIG. 2 through FIG. 4 wherein "columnization" is shown for the columns) the textual image ("IMAGE" in FIG. 1).

Regarding **claim 16**, Taylor discloses the method of claims 1 or 2 wherein the analyzing ("logical page organizer" in Col. 3, lines 2 – 7; FIG. 1, element 36; "LOGICAL STRUCTURE TREE" in FIG. 1) further comprises:

regionalizing (FIG. 5) the textual image ("IMAGE" in FIG. 1).

Regarding **claim 17**, the method of claim 1 recites identical features as in the system of claim 17. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 17. The means-plus-function language is anticipated by the computer as disclosed by Taylor (Col. 1, lines 19 – 21; Col. 11, lines 4 – 19).

Regarding **claim 18**, claim 2 recites identical features as in the system of claim 18. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 18.

Regarding **claim 19**, claim 3 recites identical features as in the system of claim 19. Thus, references/arguments equivalent to those presented above for claim 3 are equally applicable to claim 19.

Regarding **claim 20**, claim 4 recites identical features as in the system of claim 20. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 20.

Regarding **claim 24**, claim 8 recites identical features as in the system of claim 24. Thus, references/arguments equivalent to those presented above for claim 8 are equally applicable to claim 24.

Regarding **claim 26**, claim 10 recites identical features as in the system of claim 26. Thus, references/arguments equivalent to those presented above for claim 10 are equally applicable to claim 26.

Regarding **claim 27**, claim 11 recites identical features as in the system of claim 27. Thus, references/arguments equivalent to those presented above for claim 11 are equally applicable to claim 27.

Regarding **claim 28**, claim 12 recites identical features as in the system of claim 28. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 28.

Regarding **claim 29**, claim 13 recites identical features as in the system of claim 29. Thus, references/arguments equivalent to those presented above for claim 13 are equally applicable to claim 29.

Regarding **claim 30**, claim 14 recites identical features as in the system of claim 30. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 30.

Regarding **claim 31**, claim 15 recites identical features as in the system of claim 31. Thus, references/arguments equivalent to those presented above for claim 15 are equally applicable to claim 31.

Regarding **claim 32**, claim 16 recites identical features as in the system of claim 32.

Thus, references/arguments equivalent to those presented above for claim 16 are equally

applicable to claim 32.

Claim Rejections - 35 USC § 103

18.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

19.   **Claims 5 – 7, 9, 21 – 23,** and **25** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Taylor et al. (US 5,848,184 A) in view of Wang et al. (US 5,680,479 A).

Regarding **claim 5,** while Taylor discloses the method of claim 1 or 2, Taylor does not

teach wherein the desired ordering of the regions is appropriate for use in transferring the text

over a network.

Wang discloses a method for character recognition (FIG. 2) that includes wherein the

desired ordering of the regions (FIG. 2, element S212; Col. 9, line 65 – Col. 12, line 13) is

appropriate for use in transferring the text over a network (Col. 7, lines 26 – 28; FIG. 1, elements

15, 15a, 15b, 16).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the desired ordering of the regions of Taylor to include being appropriate for use in

transferring the text over a network as taught by Wang so that it "...can be embodied in a variety

of devices where character recognition processing is desired, such as image processing or image

reproducing apparatuses...", Col. 6, lines 49 – 52.

Regarding **claim 6**, while Taylor discloses the method of claim 1 or 2, Taylor does not

teach wherein the desired ordering of the regions is appropriate for use in a database.

Wang discloses a method for character recognition (FIG. 2) that includes wherein the

desired ordering of the regions (FIG. 2, element S212; Col. 9, line 65 – Col. 12, line 13) is

appropriate for use in a database (FIG. 1, element 19 wherein the character dictionary is a

database).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the desired ordering of the regions of Taylor to include being appropriate for use in

a database as taught by Wang so that it "...can be embodied in a variety of devices where

character recognition processing is desired, such as image processing or image reproducing

apparatuses...", Col. 6, lines 49 – 52.

Regarding **claim 7**, while Taylor discloses the method of claim 1 or 2, Taylor does not

teach wherein the desired ordering of the regions is appropriate for use by a search function.

Wang discloses a method for character recognition (FIG. 2) that includes wherein the

desired ordering of the regions (FIG. 2, element S212; Col. 9, line 65 – Col. 12, line 13) is

appropriate for use by a search function (function responsible for searching touching regions

across page in FIG. 17, element S1711; function responsible for searching white space between

characters in FIG. 21, element S2101).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made for the desired ordering of the regions of Taylor to include being appropriate for use

by a search function as taught by Wang "...to overcome the foregoing difficulties:", Col. 3, lines 47 – 48 listed from Col. 1, line 34 – Col. 3, line 44.

Regarding **claim 9**, while Taylor discloses the method of claim 1 or 2, Taylor does not teach wherein the desired ordering of the regions is appropriate for use by a printer.

Wang discloses a method for character recognition (FIG. 2) that includes wherein the desired ordering of the regions (FIG. 2, element S212; Col. 9, line 65 – Col. 12, line 13) is appropriate for use by a printer (FIG. 1, element 22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the desired ordering of the regions of Taylor to include being appropriate for use by a printer as taught by Wang so that it "...can be embodied in a variety of devices where character recognition processing is desired, such as image processing or image reproducing apparatuses...", Col. 6, lines 49 – 52.

Regarding **claim 21**, claim 5 recites identical features as in the system of claim 21. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 21.

Regarding **claim 22**, claim 6 recites identical features as in the system of claim 22. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 22.

Regarding **claim 23**, claim 7 recites identical features as in the system of claim 23. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 23.

Regarding **claim 25**, claim 9 recites identical features as in the system of claim 25. Thus, references/arguments equivalent to those presented above for claim 9 are equally applicable to claim 25.

Conclusion

20.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

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